

WHAT IS CLAIMED IS:

1. A consumable film adapted to dissolve in a mouth of a patient, wherein said film comprises nitroglycerin and a water soluble polymer.
- 5 2. The consumable film according to claim 1, wherein said water soluble polymer is selected from the group consisting of pullulan, hydrocolloids, β -glucan, maltodextrin, celluloses, including hydroxypropylmethyl cellulose, hydroxyethyl cellulose, hydroxypropyl cellulose, carboxymethyl cellulose, methylcellulose, hydroxymethylcellulose, hydroxyethylcellulose, polyvinyl pyrrolidone, polyvinyl alcohol, sodium alginate, polyethylene glycol, natural gums, such as locust bean gum, carageenen gum, xanthan gum, tragacanth gum, guar gum, acacia gum, arabic gum, karaya, ghatti, tamarind gum, polyacrylic acid, methylmethacrylate copolymer, carboxyvinyl polymer, amylose, high amylose starch, hydroxypropylated high amylose starch, dextrin, pectin, chitin, chitosan, levan, elsinan, collagen, gelatin, zein, gluten, soy protein isolate, whey protein isolate, casein, and mixtures thereof.
- 10 3. The consumable film according to claim 2, wherein said water soluble polymer is pullulan.
- 15 4. The consumable film according to claim 3, comprising: about 40 to about 80 wt % pullulan; about 0.01 to about 4 wt % thymol; about 0.01 to about 4 wt % methyl salicylate; about 0.01 to about 4 wt % eucalyptol; and about 0.01 to about 15 wt % menthol.
- 20 5. The consumable film according to claim 2, further comprising: about 0.01 to about 5 wt % of at least one stabilizing agent; about 0.001 to about 0.1 wt % of at least one of at least one coloring agent; about 0.1 to about 8 wt % of water; about 0.1 to about 15 wt % of at least one sweetening agent; about 0.1 to about 15 wt % of at least one flavoring agent; about 0.1 to about 4 wt % of at least one cooling agent; and about 0.1 to about 5 wt % of at least one surfactant.
- 25 6. The consumable film according to claim 5, wherein said at least one stabilizing agent is selected from the group consisting of xanthan gum, locust bean gum and carrageenan, and said at least one sweetening agent is selected from the group consisting of saccharin, aspartame and acesulfame K.

7. The consumable film according to claim 1, wherein said film does not substantially adhere to itself.

8. The consumable film according to claim 1, further comprising water in an amount from about 3 to about 8 wt %.

5 9. A method for preparing an edible film comprising nitroglycerin, said method comprising: mixing at least one water soluble film former to provide a film-forming mixture; adding nitroglycerin to the film-forming mixture; casting the film-forming mixture comprising nitroglycerin on a substrate; and drying the cast film to provide said edible film comprising nitroglycerin.

10 10. The method according to claim 9, wherein at least one surfactant is mixed into said film forming mixture.

11. The method according to claim 9, wherein said drying is conducted until said film has a moisture content of about 3 to about 8 wt %.

15 12. The method according to claim 9, wherein said film-forming mixture is a powder, which is directly combined with an aqueous solution comprising nitroglycerin to form a hydrated polymer gel.

13. The method according to claim 12, wherein said hydrated polymer gel is formed without heating.

20 14. The method according to claim 13, wherein said hydrated polymer gel is stirred at room temperature for about 2 to about 48 hours.

15. A non-self-adhering film comprising nitroglycerin produced according to the method of claim 9.

25 16. The method according to claim 9, wherein the water soluble film former is selected from the group consisting of pullulan, hydrocolloids, β -glucan, maltodextrin, celluloses, including hydroxypropylmethyl cellulose, hydroxyethyl cellulose, hydroxypropyl cellulose, carboxymethyl cellulose, methylcellulose, hydroxymethylcellulose, hydroxyethylcellulose, polyvinyl pyrrolidone, polyvinyl alcohol, sodium alginate, polyethylene glycol, natural gums, such as locust bean gum, carageenen gum, xanthan gum, tragacanth gum, guar gum, acacia gum, arabic gum, 30 karaya, ghatti, tamarind gum, polyacrylic acid, methylmethacrylate copolymer,

carboxyvinyl polymer, amylose, high amylose starch, hydroxypropylated high amylose starch, dextrin, pectin, chitin, chitosan, levan, elsinan, collagen, gelatin, zein, gluten, soy protein isolate, whey protein isolate, casein, and mixtures thereof.

17. The method according to claim 16, wherein said water soluble film
5 former is pullulan.

18. A consumable film comprising nitroglycerin adapted to dissolve in the mouth of a patient, wherein said film comprises nitroglycerin in a single layer including pullulan and at least one additional pharmaceutical agent.

19. The consumable film according to claim 18, wherein said pharmaceutical
10 agent is selected from the group consisting of anti-microbial agents, non-steroidal anti-inflammatory drugs, anti-tussives, decongestants, anti-histamines, expectorants, anti-diarrheals, H₂-antagonists, proton pump inhibitors, general nonselective CNS depressants, general nonselective CNS stimulants, drugs that selectively modify CNS function, anti-parkinsonism drugs, narcotic-analgesics, analgesic-antipyretics,
15 psychopharmacological drugs, anti-hypertension and cardiovascular treatment agents, dermatological agents, glucocorticoids and steroids, antimalarial and anti-parasitic agents, anti-fungal agents, anti-periodontitis agents, emetic agents, treatments for gout, treatments for glaucoma, treatments for attention-deficit hyperactivity disorder, pre-treatment and treatment for exposure to chemical weapons, treatments for acute radiation
20 exposure, hemostatic agents, and treatments for Sjögren's Syndrome, smoking cessation agents, and mixtures thereof.

20. The consumable film according to claim 19, wherein the anti-microbial agent is selected from the group consisting of triclosan, cetyl pyridium chloride, domiphen bromide, quaternary ammonium salts, zinc compounds, sanguinarine, fluorides, alexidine, octonidine, EDTA and mixtures thereof.
25

21. The consumable film according to claim 19, wherein the non-steroidal anti-inflammatory drug is selected from the group consisting of aspirin, acetaminophen, ibuprofen, diflunisal, fenoprofen calcium, naproxen, tolmetin sodium, indomethacin, and mixtures thereof.

22. The consumable film according to claim 19, wherein the anti-tussive is selected from the group consisting of benzonatate, caramiphen edisylate, dextromethorphan hydrobromide, chlophedianol hydrochloride and mixtures thereof.
23. The consumable film according to claim 19, wherein the decongestant is selected from the group consisting of pseudoephedrine hydrochloride, phenylephrine, phenylpropanolamine and mixtures thereof.
24. The consumable film according to claim 19, wherein the anti-histamine is selected from the group consisting of brompheniramine maleate, chlorpheniramine maleate, carbinoxamine maleate, clemastine fumarate, dexchlorpheniramine maleate, diphenhydramine hydrochloride, diphenhydramine citrate, diphenylpyraline hydrochloride, doxylamine succinate, promethazine hydrochloride, pyrilamine maleate, tripeleannamine citrate, triprolidine hydrochloride and mixtures thereof.
25. The consumable film according to claim 19, wherein the expectorant is selected from the group consisting of guaifenesin, ipecac, potassium iodide, terpin hydrate and mixtures thereof.
26. The consumable film according to claim 19, wherein the anti-diarrheal is loperamide.
27. The consumable film according to claim 19, wherein the H2-antagonist is selected from the group consisting of famotidine, ranitidine and mixtures thereof.
28. The consumable film according to claim 19, wherein the proton pump inhibitor is selected from the group consisting of omeprazole, lansoprazole, and mixtures thereof.
29. The consumable film according to claim 19, wherein the general nonselective CNS depressant is selected from the group consisting of aliphatic alcohols, barbiturates and mixtures thereof.
30. The consumable film according to claim 19, wherein the general nonselective CNS stimulant is selected from the group consisting of caffeine, nicotine, strychnine, picrotoxin, pentylenetetrazol and mixtures thereof.
31. The consumable film according to claim 19, wherein the drug that selectively modifies CNS function is selected from the group consisting of

phenyhydantoin, phenobarbital, primidone, carbamazepine, ethosukimide, methsuximide, phensuximide, trimethadione, diazepam, benzodiazepines, phenacemide, pheneturide, acetazolamide, sulthiame, bromide, and mixtures thereof.

32. The consumable film according to claim 19, wherein the anti-parkinsonism drug is selected from the group consisting of levodopa, amantadine and mixtures thereof.

33. The consumable film according to claim 19, wherein the narcotic-analgesic is selected from the group consisting of alfentanil, benzylmorphine, buprenorphine, clonitazene, codeine, desomorphine, dextromoramide, 10 dimethylthiambutene, eptazocine, ethoheptazine, fentanyl, hydrocodone, hydromorphone, hydroxypethidine, isomethadone, ketobemidone, levorphanol, lofentanil, meperidine, methadone hydrochloride, metopon, morphine, nalbuphine, nalorphine, naloxone, naltrexone norlevorphanol, opium, oxycodone, oxymorphone, papaveretum, phenadoxone, promedol, sufentanil, tilidine, and mixtures thereof.

34. The consumable film according to claim 19, wherein the analgesic-antipyretic is selected from the group consisting of salicylates, phenylbutazone, indomethacin, phenacetin, arylsulfanyl derivatives, heteroarylsulfanyl derivatives, and mixtures thereof.

35. The consumable film according to claim 19, wherein the psychopharmacological drug is selected from the group consisting of chlorpromazine, methotrimeprazine, haloperidol, clozapine, reserpine, imipramine, tranylcypromine, phenelzine, lithium and mixtures thereof.

36. The consumable film according to claim 19, wherein the anti-hypertension and cardiovascular treatment agent is selected from the group consisting of ACE inhibitors, calcium channel blockers, peripheral vasodilators, beta adrenergic blockers, alpha/beta adrenergic blockers, diuretics, digitalis, and isosorbide nitrates, including isosorbide dinitrates and isosorbide mononitrites, and mixtures thereof.

37. The consumable film according to claim 19, wherein the dermatological agent is selected from the group consisting of acitretin, algesteone acetophenide, ammonium salicylate, anthralin, azathioprine, 6-azauridine, azelaic acid, benzoyl

peroxide, bergapten(e), chloroxine, chrysarobin, cyclophosphamide, cyclosporin, cytol, cyproterone, dichloroacetic acid, doxycycline, etretinate, isotretinoin, 3-O-lauroylpyridoxol diacetate, methotrexate, minocycline, motretinide, piroctone, pyrithione, pyrogallol, resorcinol, retinoic acid, salicylic acid, selenium sulfides, tazarotene, 5 tetroquinone, tioxolone, and mixtures thereof.

38. The consumable film according to claim 19, wherein the glucocorticoid and steroid is selected from the group consisting of 21-acetoxypregnolone, aclometasone, algestone, betamethasone, beclomethasone, budesonide, clobetasol, corticosterone, cortivazol, deflazacort, dedexamethasone, desoximetasone, difluprednate, 10 enoxolone, fluazacort, flumethasone, fluocortin butyl, flurandrenolide, formocortal, halcinonide, halopredone acetate, hydrocortisone, mazipredone, methylprednisolone, methylparamethasone, prednisolone, prednisone, prednival, prednylidene 21-diethylaminoacetate, tixocortol, triamcinolone, and mixtures thereof.

39. The consumable film according to claim 19, wherein the antimalarial and 15 anti-parasitic agent is selected from the group consisting of acedapsone, bebeerines, chirate, chloroguanide, chloroquine, cinchona, gentiopicrin, halofantrine, hydroxychloroquine, mefloquine hydrochloride, mepacrine, 3-methylarsacetin, pamaquine, primaquine, pyrimethamine, quiacrine, quinine, quinocide, quinoline, and sodium arsenate, and mixtures thereof.

20 40. The consumable film according to claim 19, wherein the anti-fungal agent is selected from the group consisting of acrisorcin, amorolfine, amphotericin B, azaserine, bifonazole, biphenamine, bromosalicylchlornalide, buclosamide, butoconazole, calcium propionate, candididin, chlordantoin, chlorphenesin, ciclopirox, cloxyquin, dermostatin, diamthazole, dihydrochloride, econazole, enilconazole, 25 exalamide, fenticonazole, filipin, fluconazole, flucytosine, fungichromin, griseofulvin, hachimycin, halethazole, hexetidine, intraconazol, isoconazole, itraconazole, ketoconazole, loflucarban, lucensomycin, mepartacin, miconazole, naftifine, natamycin, neomycin undecylenate, nifuratel, nystatin, oliogomycins, omoconazole, oxiconazole, 30 pecilocin, potassium iodide, perimycin, salicylanilide, sicanin, sulconazole, terbinafine, terconazole, tioconazole, tubercidin, tolciclate, ujothion, viridin, zinc propionate, and mixtures thereof.

41. The consumable film according to claim 19, wherein the anti-periodontitis agent is selected from the group consisting of cevimeline hydrochloride, chlorhexidine, doxycycline, fluoride, minocycline, pilocarpine, tetracycline, triclosan and mixtures thereof.

5 42. The consumable film according to claim 19, wherein the emetic agent is selected from the group consisting of apocodeine, apomorphine, cephalexine, ipecac, sodium chloride, zinc acetate, and mixtures thereof.

10 43. The consumable film according to claim 19, wherein the treatment for gout is selected from the group consisting of allopurinol, carprofen, colchicine, probenecid, sulfinpyrazone, and mixtures thereof.

15 44. The consumable film according to claim 19, wherein the treatment for glaucoma is selected from the group consisting of acetazolamide, befunolol, betaxolol, burpranolol, carteolol, dapiptazole, dichlorphenamide, dipivefrin, epinephrine, levobunolol, methazolamide, metipranolol, pilocarpine, pindolol, timolol, and mixtures thereof.

45. The consumable film according to claim 19, wherein the treatment for attention-deficit hyperactivity disorder is selected from the group consisting of methylphenidate (Ritalin), dextroamphetamine, pemoline, athomexetine, and mixtures thereof.

20 46. The consumable film according to claim 19, wherein the pre-treatment and treatment for exposure to chemical weapons is selected from the group consisting of atropine, pralidoxime (2-PAM), pralidoxime chloride, diazepam, pyridostigmine and mixtures thereof.

25 47. The consumable film according to claim 19, wherein the treatment for acute radiation exposure is selected from the group consisting of potassium iodide, Prussian Blue and mixtures thereof.

30 48. The consumable film according to claim 19, wherein the hemostatic agent is selected from the group consisting of adrenalone, adrenochrome, algin, alginic acid, aminochromes, batroxobin, carbazochrome salicylate, cephalins, cotarnine, ellagic acid, ethamsylate, factor viii, factor ix, factor xiii, 1,2-naphthylamine-4-sulfonic acid,

oxamarin, oxidized cellulose, styptic collodion, sulmarin, thrombin, thromboplastin, tolonium chloride, tranexamic acid, vasopressin, vitamin k2 and mixtures thereof.

49. The consumable film according to claim 19, wherein the treatment for Sjorgren's Syndrome is selected from the group consisting of pilocarpine (Salagon) and 5 cevimeline hydrochloride (Evoxac), and mixtures thereof.

50. The consumable film according to claim 19, wherein the smoking cessation agent is selected from the group consisting of nicotine, bupropion HCL, lobeline, clonidine, and nortyptaline.

51. A method for delivering an effective amount of nitroglycerin to the oral 10 cavity comprising introducing in the oral cavity a rapidly dissolving edible film comprising pullulan and nitroglycerin.

52. The method according to claim 51, wherein the amount of pullulan in the film is from about 40 to about 80 wt %.

53. The method according to claim 51, wherein the amount of nitroglycerin in 15 the film is from about 0.0001 to about 90 wt %.

54. A method for delivering an effective amount of nitroglycerin to the oral cavity comprising introducing in the oral cavity the consumable film according to claim 1.

55. An edible film comprising nitroglycerin for use in transmucosal delivery 20 of nitroglycerin to a patient, said film comprising:

- a) a binding agent which is dissolvable in the mouth of the patient; and,
- b) a pharmacologically effective dose of nitroglycerin dispersed in the binding agent to form a mixture that is fashioned into a film such that when the film dissolves in the mouth of the patient, the pharmacologically effective dose of 25 nitroglycerin is released.

56. A consumable film adapted to dissolve in a mouth of a patient, wherein said film comprises one or more therapeutic agents selected from a group consisting of anti-microbial agents, non-steroidal anti-inflammatory drugs, anti-inflammatory drugs, anti-tussives, decongestants, anti-histamines, expectorants, anti-diarrheals, H2-

antagonists, proton pump inhibitors, general nonselective CNS depressants, general nonselective CNS stimulants, drugs that selectively modify CNS function, anti-parkinsonism drugs, narcotic-analgesics, analgesic-antipyretics, psychopharmacological drugs, anti-hypertension and cardiovascular treatment agents, dermatological agents, 5 glucocorticoids and steroids, antimalarial and anti-parasitic agents, anti-fungal agents, anti-periodontitis agents, emetic agents, treatments for gout, treatments for glaucoma, treatments for attention-deficit hyperactivity disorder, pre-treatment and treatment for exposure to chemical weapons, treatments for acute radiation exposure, hemostatic agents, treatments for Sjögren's Syndrome and smoking cessation agents and a water 10 soluble polymer.

57. The consumable film according to claim 56, wherein said water soluble polymer is selected from the group consisting of pullulan, hydrocolloids, β -glucan, maltodextrin, celluloses, including hydroxypropylmethyl cellulose, hydroxyethyl cellulose, hydroxypropyl cellulose, carboxymethyl cellulose, methylcellulose, 15 hydroxymethylcellulose, hydroxyethylcellulose, polyvinyl pyrrolidone, polyvinyl alcohol, sodium alginate, polyethylene glycol, natural gums, such as locust bean gum, carageenen gum, xanthan gum, tragacanth gum, guar gum, acacia gum, arabic gum, karaya, ghatti, tamarind gum, polyacrylic acid, methylmethacrylate copolymer, carboxyvinyl polymer, amylose, high amylose starch, hydroxypropylated high amylose 20 starch, dextrin, pectin, chitin, chitosan, levan, elsinan, collagen, gelatin, zein, gluten, soy protein isolate, whey protein isolate, casein, and mixtures thereof.

58. The consumable film according to claim 57, wherein said water soluble polymer is pullulan.

59. The consumable film according to claim 57, comprising: about 40 to 25 about 80 wt % pullulan; about 0.01 to about 4 wt % thymol; about 0.01 to about 4 wt % methyl salicylate; about 0.01 to about 4 wt % eucalyptol; and about 0.01 to about 15 wt % menthol.

60. The consumable film according to claim 57, further comprising: about 30 0.01 to about 5 wt % of at least one stabilizing agent; about 0.001 to about 0.1 wt % of at least one of at least one coloring agent; about 0.1 to about 8 wt % of water; about 0.1 to about 15 wt % of at least one sweetening agent; about 0.1 to about 15 wt % of at least

one flavoring agent; about 0.1 to about 4 wt % of at least one cooling agent; and about 0.1 to about 5 wt % of at least one surfactant.

5 61. The consumable film according to claim 60, wherein said at least one stabilizing agent is selected from the group consisting of xanthan gum, locust bean gum and carrageenan, and said at least one sweetening agent is selected from the group consisting of saccharin, aspartame and acesulfame K.

62. The consumable film according to claim 56, wherein said film does not substantially adhere to itself.

10 63. The consumable film according to claim 56, further comprising water in an amount from about 3 % to about 8 wt %.

15 64. A method for preparing an edible film comprising one or more therapeutic agents selected from a group consisting of anti-microbial agents, non-steroidal anti-inflammatory drugs, anti-inflammatory drugs, anti-tussives, decongestants, anti-histamines, expectorants, anti-diarrheals, H₂-antagonists, proton pump inhibitors, general nonselective CNS depressants, general nonselective CNS stimulants, drugs that selectively modify CNS function, anti-parkinsonism drugs, narcotic-analgesics, analgesic-antipyretics, psychopharmacological drugs, anti-hypertension and cardiovascular treatment agents, dermatological agents, glucocorticoids and steroids, antimalarial and anti-parasitic agents, anti-fungal agents, anti-periodontitis agents, emetic agents, treatments for gout, treatments for glaucoma, treatments for attention-deficit hyperactivity disorder, pre-treatment and treatment for exposure to chemical weapons, treatments for acute radiation exposure, hemostatic agents, treatments for Sjögren's Syndrome and smoking cessation agents, said method comprising: mixing at least one water soluble film former to provide a film-forming mixture; adding the therapeutic agent(s) to the film-forming mixture; casting the film-forming mixture comprising the therapeutic agent(s) on a substrate; and drying the cast film to provide said edible film comprising the therapeutic agent(s).

20 65. The method according to claim 64, wherein at least one surfactant is mixed into said film forming mixture.

66. The method according to claim 64, wherein said drying is conducted until said film has a moisture content of about 3 to about 8 wt %.

67. The method according to claim 64, wherein said film-forming mixture is a powder, which is directly combined with an aqueous solution comprising one or more therapeutic agents selected from a group consisting of anti-microbial agents, non-steroidal anti-inflammatory drugs, anti-inflammatory drugs, anti-tussives, decongestants, anti-histamines, expectorants, anti-diarrheals, H₂-antagonists, proton pump inhibitors, general nonselective CNS depressants, general nonselective CNS stimulants, drugs that selectively modify CNS function, anti-parkinsonism drugs, narcotic-analgesics, analgesic-antipyretics, psychopharmacological drugs, anti-hypertension and cardiovascular treatment agents, dermatological agents, glucocorticoids and steroids, antimalarial and anti-parasitic agents, anti-fungal agents, anti-periodontitis agents, emetic agents, treatments for gout, treatments for glaucoma, treatments for attention-deficit hyperactivity disorder, pre-treatment and treatment for exposure to chemical weapons, treatments for acute radiation exposure, hemostatic agents, treatments for Sjögren's Syndrome and smoking cessation agents, to form a hydrated polymer gel.

68. The method according to claim 67, wherein said hydrated polymer gel is formed without heating.

69. The method according to claim 68, wherein said hydrated polymer gel is stirred at room temperature for about 2 to about 48 hours.

70. A non-self-adhering film comprising one or more therapeutic agents selected from a group consisting of anti-microbial agents, non-steroidal anti-inflammatory drugs, anti-inflammatory drugs, anti-tussives, decongestants, anti-histamines, expectorants, anti-diarrheals, H₂-antagonists, proton pump inhibitors, general nonselective CNS depressants, general nonselective CNS stimulants, drugs that selectively modify CNS function, anti-parkinsonism drugs, narcotic-analgesics, analgesic-antipyretics, psychopharmacological drugs, anti-hypertension and cardiovascular treatment agents, dermatological agents, glucocorticoids and steroids, antimalarial and anti-parasitic agents, anti-fungal agents, anti-periodontitis agents, emetic agents, treatments for gout, treatments for glaucoma, treatments for attention-deficit hyperactivity disorder, pre-treatment and treatment for exposure to chemical weapons,

treatments for acute radiation exposure, hemostatic agents, treatments for Sjögren's Syndrome and smoking cessation agents, produced according to the method of claim 64.

71. The method according to claim 64, wherein the water soluble film former is selected from the group consisting of pullulan, hydrocolloids, β -glucan, maltodextrin, celluloses, including hydroxypropylmethyl cellulose, hydroxyethyl cellulose, hydroxypropyl cellulose, carboxymethyl cellulose, methylcellulose, hydroxymethylcellulose, hydroxyethylcellulose, polyvinyl pyrrolidone, polyvinyl alcohol, sodium alginate, polyethylene glycol, natural gums, such as locust bean gum, carageenen gum, xanthan gum, tragacanth gum, guar gum, acacia gum, arabic gum, karaya, ghatti, tamarind gum, polyacrylic acid, methylmethacrylate copolymer, carboxyvinyl polymer, amylose, high amylose starch, hydroxypropylated high amylose starch, dextrin, pectin, chitin, chitosan, levan, elsinan, collagen, gelatin, zein, gluten, soy protein isolate, whey protein isolate, casein, and mixtures thereof.

72. The method according to claim 71, wherein said water soluble film former is pullulan.

73. A consumable film adapted to dissolve in the mouth of a patient, wherein said film comprises one or more therapeutic agents selected from a group consisting of anti-microbial agents, non-steroidal anti-inflammatory drugs, anti-inflammatory drugs, anti-tussives, decongestants, anti-histamines, expectorants, anti-diarrheals, H₂-antagonists, proton pump inhibitors, general nonselective CNS depressants, general nonselective CNS stimulants, drugs that selectively modify CNS function, anti-parkinsonism drugs, narcotic-analgesics, analgesic-antipyretics, psychopharmacological drugs, anti-hypertension and cardiovascular treatment agents, dermatological agents, glucocorticoids and steroids, antimalarial and anti-parasitic agents, anti-fungal agents, anti-periodontitis agents, emetic agents, treatments for gout, treatments for glaucoma, treatments for attention-deficit hyperactivity disorder, pre-treatment and treatment for exposure to chemical weapons, treatments for acute radiation exposure, hemostatic agents, treatments for Sjögren's Syndrome and smoking cessation agents, in a single layer including pullulan.

74. The consumable film according to claim 73, wherein the anti-microbial agent is selected from the group consisting of triclosan, cetyl pyridium chloride,

domiphen bromide, quaternary ammonium salts, zinc compounds, sanguinarine, fluorides, alexidine, octonidine, EDTA and mixtures thereof.

75. The consumable film according to claim 73, wherein the non-steroidal anti-inflammatory drug is selected from the group consisting of aspirin, acetaminophen, 5 ibuprofen, diflunisal, fenoprofen calcium, naproxen, tolmetin sodium, indomethacin, and mixtures thereof.

76. The consumable film according to claim 73, wherein the anti-tussive is selected from the group consisting of benzonatate, caramiphen edisylate, dextromethorphan hydrobromide, chlophedianol hydrochloride and mixtures thereof.

10 77. The consumable film according to claim 73, wherein the decongestant is selected from the group consisting of pseudoephedrine hydrochloride, phenylepherine, phenylpropanolamine and mixtures thereof.

15 78. The consumable film according to claim 73, wherein the anti-histamine is selected from the group consisting of brompheniramine maleate, chlorpheniramine maleate, carboxamine maleate, clemastine fumarate, dexchlorpheniramine maleate, diphenhydramine hydrochloride, diphenhydramine citrate, diphenylpyraline hydrochloride, doxylamine succinate, promethazine hydrochloride, pyrilamine maleate, tripeleannamine citrate, triprolidine hydrochloride and mixtures thereof.

20 79. The consumable film according to claim 73, wherein the expectorant is selected from the group consisting of guaifenesin, ipecac, potassium iodide, terpin hydrate and mixtures thereof.

80. The consumable film according to claim 73, wherein the anti-diarrheal is loperamide.

25 81. The consumable film according to claim 73, wherein the H₂-antagonist is selected from the group consisting of famotidine, ranitidine and mixtures thereof.

82. The consumable film according to claim 73, wherein the proton pump inhibitor is selected from the group consisting of omeprazole, lansoprazole, and mixtures thereof.

83. The consumable film according to claim 73, wherein the general nonselective CNS depressant is selected from the group consisting of aliphatic alcohols, barbiturates and mixtures thereof.

5 84. The consumable film according to claim 73, wherein the general nonselective CNS stimulant is selected from the group consisting of caffeine, nicotine, strychnine, picrotoxin, pentylenetetrazol and mixtures thereof.

10 85. The consumable film according to claim 73, wherein the drug that selectively modifies CNS function is selected from the group consisting of phenyhydantoin, phenobarbital, primidone, carbamazepine, ethosukimide, methsuximide, phensuximide, trimethadione, diazepam, benzodiazepines, phenacemide, pheneturide, acetazolamide, sulthiame, bromide, and mixtures thereof.

15 86. The consumable film according to claim 73, wherein the anti-parkinsonism drug is selected from the group consisting of levodopa, amantadine and mixtures thereof.

20 87. The consumable film according to claim 73, wherein the narcotic-analgesic is selected from the group consisting of alfentanil, benzylmorphine, buprenorphine, clonitazene, codeine, desomorphine, dextromoramide, dimethylthiambutene, eptazocine, ethoheptazine, fentanyl, hydrocodone, hydromorphone, hydroxypethidine, isomethadone, ketobemidone, levorphanol, 25 lofentanil, meperidine, methadone hydrochloride, metopon, morphine, nalbuphine, nalorphine, naloxone, naltrexone norlevorphanol, opium, oxycodone, oxymorphone, papaveretum, phenadoxone, promedol, sufentanil, tilidine, and mixtures thereof.

25 88. The consumable film according to claim 73, wherein the analgesic-antipyretic is selected from the group consisting of salicylates, phenylbutazone, indomethacin, phenacetin, arylsulfanyl derivatives, heteroarylsulfanyl derivatives, and mixtures thereof.

30 89. The consumable film according to claim 73, wherein the psychopharmacological drug is selected from the group consisting of chlorpromazine, methotriprazine, haloperidol, clozapine, reserpine, imipramine, tranylcypromine, phenelzine, lithium and mixtures thereof.

90. The consumable film according to claim 73, wherein the anti-hypertension and cardiovascular treatment agent is selected from the group consisting of ACE inhibitors, calcium channel blockers, peripheral vasodilators, beta adrenergic blockers, alpha/beta adrenergic blockers, diuretics, digitalis, and isosorbide nitrates, 5 including isosorbide dinitrates and isosorbide mononitrites, and mixtures thereof.

91. The consumable film according to claim 73, wherein the dermatological agent is selected from the group consisting of acitretin, algesteone acetophenide, ammonium salicylate, anthralin, azathioprine, 6-azauridine, azelaic acid, benzoyl peroxide, bergapten(e), chloroxine, chrysarobin, cyclophosphamide, cyclosporin, cytol, 10 cyproterone, dichloroacetic acid, doxycycline, etretinate, isotretinoin, 3-O-lauroylpyridoxol diacetate, methotrxate, minocycline, motretinide, piroctone, pyrithione, pyrogallol, resorcinol, retinoic acid, salicylic acid, selenium sulfides, tazarotene, tetroquinone, tioxolone, and mixtures thereof.

92. The consumable film according to claim 73, wherein the glucocorticoid 15 and steroid is selected from the group consisting of 21-acetoxypregnolone, alclometasone, algestone, betamethasone, beclomethasone, budesonide, clobetasol, corticosterone, cortivazol, deflazacort, dedexamethasone, desoximetasone, difluprednate, enoxolone, fluazacort, flumethasone, fluocortin butyl, flurandrenolide, formocortal, halcinonide, halopredone acetate, hydrocortisone, mazipredone, methylprednisolone, 20 methylparamethasone, prednisolone, prednisone, prednival, prednylidene 21-diethylaminoacetate, tixocortol, triamcinolone, and mixtures thereof.

93. The consumable film according to claim 73, wherein the antimalarial and anti-parasitic agent is selected from the group consisting of acedapsone, bebeerines, chirate, chloroguanide, chloroquine, cinchona, gentiopicrin, halofantrine, 25 hydroxychloroquine, mefloquine hydrochloride, mepacrine, 3-methylarsacetin, pamaquine, primaquine, pyrimethamine, quiacrine, quinine, quinocide, quinoline, and sodium arsenate, and mixtures thereof.

94. The consumable film according to claim 73, wherein the anti-fungal agent 30 is selected from the group consisting of acrisorcin, amorolfine, amphotericin B, azaserine, bifonazole, biphenamine, bromosalicylchlornalide, buclosamide, butoconazole, calcium propionate, candididin, chlordantoin, chlorphenesin, ciclopirox,

cloxyquin, dermostatin, diamthazole, dihydrochloride, econazole, enilconazole, exalamide, fenticonazole, filipin, fluconazole, flucytosine, fungichromin, griseofulvin, hachimycin, halethazole, hexetidine, intraconazol, isoconazole, itraconazole, ketoconazole, loflucarban, lucensomycin, meparticin, miconazole, naftifine, natamycin, 5 neomycin undecylenate, nifuratel, nystatin, oliogomycins, omoconazole, oxiconazole, pecilocin, potassium iodide, perimycin, salicylanilide, sicanin, sulconazole, terbinafine, terconazole, tioconazole, tubercidin, tolciclate, ujothion, viridin, zinc propionate, and mixtures thereof.

95. The consumable film according to claim 73, wherein the anti-periodontitis 10 agent is selected from the group consisting of cevimeline hydrochloride, chlorhexidine, doxycycline, fluoride, minocycline, pilocarpine, tetracycline, triclosan and mixtures thereof.

96. The consumable film according to claim 73, wherein the emetic agent is 15 selected from the group consisting of apocodeine, apomorphine, cephaeline, ipecac, sodium chloride, zinc acetate, and mixtures thereof.

97. The consumable film according to claim 73, wherein the treatment for gout is selected from the group consisting of allopurinol, carprofen, colchicine, probenecid, sulfipyrazone, and mixtures thereof.

98. The consumable film according to claim 73, wherein the treatment for 20 glaucoma is selected from the group consisting of acetazolamide, befunolol, betaxolol, burpranolol, carteolol, dapiprazole, dichlorphenamide, dipivefrin, epinephrine, levobunolol, methazolamide, metipranolol, pilocarpine, pindolol, timolol, and mixtures thereof.

99. The consumable film according to claim 73, wherein the treatment for 25 attention-deficit hyperactivity disorder is selected from the group consisting of methylphenidate (Ritalin), dextroamphetamine, pemoline, athomexetine, and mixtures thereof.

100. The consumable film according to claim 73, wherein the pre-treatment and treatment for exposure to chemical weapons is selected from the group consisting of

atropine, pralidoxime (2-PAM), pralidoxime chloride, diazepam, pyridostigmine and mixtures thereof.

101. The consumable film according to claim 73, wherein the treatment for acute radiation exposure is selected from the group consisting of potassium iodide,
5 Prussian Blue and mixtures thereof.

102. The consumable film according to claim 73, wherein the hemostatic agent is selected from the group consisting of adrenalone, adrenochrome, algin, alginic acid, aminochromes, batroxobin, carbazochrome salicylate, cephalins, cotarnine, ellagic acid, ethamsylate, factor viii, factor ix, factor xiii, 1,2-naphthylamine-4-sulfonic acid, 10 oxamarin, oxidized cellulose, styptic collodion, sulmarin, thrombin, thromboplastin, tolonium chloride, tranexamic acid, vasopressin, vitamin k₂ and mixtures thereof.

103. The consumable film according to claim 73, wherein the treatment for Sjorgren's Syndrome is selected from the group consisting of pilocarpine (Salagon) and cevimeline hydrochloride (Evoxac), and mixtures thereof.

15 104. The consumable film according to claim 73, wherein the smoking cessation agents is selected from the group consisting of nicotine, bupropion HCL, lobeline, clonidine, and nortyptaline.